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(54) MECHANISM TO REDUCE THE COST OF FORWARDING POINTER ALIASING

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(57) **ABSTRACT**

Short-quasi-unique-identifiers (SQUIDs) are generated and assigned to the data objects stored in memory. Pointers to a particular data object contain the data object's assigned SQUID. If a data object is moved to a second allocated memory segment, a new pointer to the second allocated memory segment is placed at the original memory segment, so that any pointers to the original memory segment now point to the new pointer. The distribution of SQUIDs is uniform. SQUIDs can be generated by counting, generated randomly, generating through some hashing mechanism, or other means. In comparing two different pointers, it is determined that the two pointers do not reference the same data object if the SQUIDs are different. On the other hand, if the SQUIDs are identical and the address fields of the two pointers are identical, then the two pointers reference the same data object. In addition, a pointer is associated with a migration indicator field which indicates the number of migrations of the referenced data object prior to the pointer being created. The comparator determines that two pointers do not reference the same data object if their associated migration indicators indicate identical numbers of migrations and their corresponding addresses are different.